CLAIMS

1. An apparatus for delivering a fluidic media to a wafer, comprising:

a housing defining a process chamber;

a fluidic media delivery member coupled to the process chamber;

a spin chuck positioned in the process chamber, the spin chuck having a wafer support surface coated with a coating material; and

a vacuum supply line coupled to the spin chuck.

2. The apparatus of claim 1, wherein the coating material on the wafer support surface has a thickness of 10-100 microns.

3. The apparatus of claim 1, wherein the coating material on the wafer support surface has a thickness of 1-10 microns.

4. The apparatus of claim 1, wherein the coating material on the wafer support surface has a thickness of 0.05-1 micron.

5. The apparatus of claim 1, wherein the coating material has a hardness less than silicon.

6. The apparatus of claim 1, wherein the coating material is selected from SiO_2, SiO_xCH_y, and $SiO_x N_aH_b$ wherein x is 1-2, y is 0-3, a is 0-1 and y is 0-1.

7. The apparatus of claim 1, wherein the coating material is a film deposition coating material.

8. The apparatus of claim 1, wherein the coating material is a plasma enhanced chemical vapor deposition coating material.

9. The apparatus of claim 1, wherein the wafer support surface has a surface area no larger than a surface area of a wafer configured to be positioned on the wafer support surface.

10. The apparatus of claim 1, wherein the wafer support surface includes a plurality of support structures.

11. The apparatus of claim 10, wherein the support structures are point contact structures.

12. The apparatus of claim 1, wherein the wafer support surface includes a vacuum ring.

13. The apparatus of claim 12, wherein the vacuum ring is a line contact vacuum ring.

14. An apparatus for delivering a fluidic media to a wafer, comprising:

a housing defining a process chamber;

a fluidic media delivery member coupled to the process chamber;

a spin chuck positioned in the process chamber, the spin chuck including a wafer support surface and a skirt positioned at a periphery and in a non-planar relationship to the wafer support wafer surface; and

a vacuum supply line coupled to the spin chuck.

15. The apparatus of claim 14, wherein the wafer support surface provides a mechanical support for a wafer and the skirt is positioned to be in a non-mechanical supporting position relative to the wafer.

16. The apparatus of claim 14, wherein the skirt is sized to permit a wafer positioned on the wafer support surface to extend beyond a periphery of the skirt.

17. The apparatus of claim 14, wherein the skirt and wafer support surface are sized to be at least equal to a size of a wafer positioned on the wafer support surface.

18. The apparatus of claim 14, wherein the skirt is sized to reduce a magnitude of radial thermal gradients in a wafer positioned on the wafer support surface.

19. The apparatus of claim 14, wherein the skirt is sized to reduce thermal cross-talk between the process chamber and the wafer positioned on the wafer support surface.

20. The apparatus of claim 14, wherein the wafer support surface coated with a coating material.

21. A wafer processing apparatus, comprising:

a housing;

a first wafer transporter positioned in the housing;

a second wafer transporter positioned in the housing; and

a process station coupled to each of the first and second wafer transporters, the process station including a plurality of wafer processing

modules. each of a module including a spin chuck having a wafer support surface coated with a coating material.

22. The apparatus of claim 21, wherein the coating material on each wafer support surface has a thickness of 10-100 microns.

23. The apparatus of claim 21, wherein the coating material on each wafer support surface has a thickness of 1-10 microns.

24. The apparatus of claim 21, wherein the coating material on each wafer support surface has a thickness of 0.05-1 micron..

25. The apparatus of claim 21, wherein the coating material is a film deposition coating material.

26. The apparatus of claim 21, wherein the coating material is a plasma enhanced chemical vapor deposition coating material.

27. The apparatus of claim 21, wherein the wafer support surface has a surface area no larger than a surface area of a wafer configured to be positioned on the wafer support surface.

28. The apparatus of claim 21, wherein the chuck includes a skirt positioned at a periphery and in a non-planar relationship to the wafer support wafer surface.

29. A method of reducing contamination of a wafer, comprising:
providing a spin chuck with a wafer support surface;
positioning the spin chuck in a treatment chamber; and
applying a coating material to the wafer support surface.

30. The method of claim 29, wherein the coating material is applied to the wafer support surface using a thin film deposition process.

31. The method of claim 29, wherein the thin film deposition process is a plasma enhanced chemical vapor deposition process.

32. The method of claim 29, wherein the thin film deposition process is a chemical vapor deposition process.

33. The method of claim 29, wherein the thin film deposition process is an e-beam process.

34. The method of claim 29, wherein the thin film deposition process is a laser induced deposition process.

35. A method of applying a material to a wafer, comprising:

providing a spin chuck with a wafer support surface coated with a coating material;

positioning the wafer on the wafer support surface;

spinning the spin chuck in a process chamber;

delivering the material to the wafer while the spin chuck is spinning; and

forming a uniform layer of material on the wafer.

36. The method of claim 35, further comprising:

applying a vacuum to the wafer positioned on the wafer support surface.

37. The method of claim 35, wherein the material is selected from the group of a photoresist, developer fluid, anti-reflective coating, de-ionized water, spin on coating material and organic solvent.

38. A method of applying a material to a wafer, comprising:

providing a spin chuck with a wafer support surface and a skirt positioned at a periphery and in a non-planar relationship to the wafer support wafer surface;

positioning the wafer on the wafer support surface;

spinning the spin chuck in a process chamber;

delivering the material to the wafer while the spin chuck is spinning; and

forming a uniform layer of material on the wafer.

39. The method of claim 38, wherein the wafer support surface provides a mechanical support for the wafer and the skirt is positioned in a non-mechanical supporting position relative to the wafer.

40. The method of claim 38, wherein the skirt is sized to permit the wafer positioned on the wafer support surface to extend beyond a periphery of the skirt.

41. The method of claim 38, wherein the skirt and wafer support surface are sized to be at least equal to a size of a wafer positioned on the wafer support surface.

42. The method of claim 38, wherein the skirt is sized to reduce a magnitude of radial thermal gradients in a wafer positioned on the wafer support surface.

43. The method of claim 38, wherein the skirt is sized to reduce thermal cross-talk between the process chamber and the wafer positioned on the wafer support surface.

44. The method of claim 38, wherein the skirt is sized to sufficiently reduce a magnitude of radial thermal gradients introduced to a wafer positioned on the wafer support surface from the process chamber and permit a uniform thickness of a material applied to a surface of the wafer.